

Claims

1. A method for producing a composite material comprising phosphorus and silicon, the method comprising the steps:

- 5 (a) taking a sample of phosphorus;
- (b) substantially surrounding the sample of phosphorus with a layer of silicon, the layer of silicon comprising a multiplicity of silicon particles;
- (c) applying heat to the silicon in such a manner that a temperature difference is established between at least part of the silicon layer and the sample of phosphorus, and in
- 10 such a manner that at least some of the phosphorus is vaporised; and
- (d) allowing and/or causing at least some of the phosphorus vapour to contact at least part of the layer of silicon in such a manner that a molten composite material comprising silicon and phosphorus is formed.

- 15 2. A method according to claim 1 characterised in that steps (a), (b), and (c) are performed in such a manner that at least part of the silicon layer is heated to a silicon reaction temperature between 900 C and 1500 C.

- 20 3. A method according to claim 1 characterised in that the sample of phosphorus comprises red phosphorus.

4. A method according to claim 1 characterised in that method comprises the further step (e) of atomising at least part of the molten composite material generated by step (d).

- 25 5. A method according to claim 4 characterised in that the method comprises a further steps: (f) of cooling and then (fii) porosifying at least some of the composite material formed by step (e).

- 30 6. A method according to claim 5 characterised in that the method comprises the further step (g) of irradiating at least some of the composite material produced by (fii) with neutrons in such a manner that at least some of the phosphorus is converted to ^{32}P .

7. A radiotherapeutic product obtainable by a method according to claim 6.

- 35 8. A radiotherapeutic product according to claim 7 for use in the treatment of cancer.